

### **REMARKS**

This amendment is responsive to the Office Action dated January 16, 2009. Applicant has amended claims 7 and 14. Claims 2–4, 17, 28–29, and 36 were previously cancelled. Claims 1, 5–16, 18–27, 30–35, and 37–41 are pending.

#### **Claim Rejection Under 35 U.S.C. § 103**

The Office Action rejected claim 7 under 35 U.S.C. § 103(a) as being unpatentable over Sankaran et al. (US 2003/0231587, hereinafter “Sankaran”) in view of TCP/IP Network Administration, Hunt (hereinafter “Hunt”). The Office Action also rejected claims 1, 5, 8–16, 18–27, 30–35 and 37–41 under 35 U.S.C. § 103(a) as being unpatentable over Sankaran in view of “BGP Restart Session After Max-Prefix Limit,” Cisco Systems (hereinafter, “Cisco”) and Hunt. The Office Action also rejected claim 6 as being unpatentable over Sankaran, Cisco, and Hunt as applied to claim 1 above, and further in view of Rochberger et al. (US 6,212,188, hereinafter “Rochberger”). Applicant respectfully traverses the rejection to the extent such rejections may be considered applicable to the claims as amended. The applied references fail to disclose or suggest the inventions defined by Applicant’s claims, and provide no teaching of a reason for modification to arrive at the claimed invention.

Claim 1, for example, requires maintaining a count of routes exported from an exterior routing protocol executing on a network device to an interior routing protocol executing on the network device and rejecting additional routes exported from the exterior routing protocol executing on the network device to the interior routing protocol executing on the network device when the count exceeds an export limit. The Office Action cited Sankaran in view of Cisco and Hunt as disclosing the requirements of claim 7. Applicant respectfully submits, however, that Sankaran in view of Cisco and Hunt fails to disclose or suggest the requirements of claim 1.

Applicant notes that an example device implementing the method of claim 1 will reject routes exported from an exterior routing protocol to an interior routing protocol when a counted number of exported routes exceeds an export limit. Sankaran, however, discloses rejecting routes by a router “based upon the volume of routes in the router.” Sankaran, ¶ [0009]. That is, Sankaran discloses establishing thresholds based upon a volume of available storage space of a router. *See, e.g.*, Sankaran, ¶ [0035]. However, rejecting routes after exceeding a threshold based on volume of available storage space is not maintaining a count of routes exported from an

exterior routing protocol to an interior routing protocol and rejecting additional routes exported from the exterior routing protocol to an interior routing protocol when the count exceeds an export limit, as required by claim 1. An export limit, as required by claim 1, is intimately tied to a count of routes exported from an exterior routing protocol to an interior protocol. Therefore, the teaching of rejecting routes after a threshold volume of storage space is exceeded in Sankaran cannot properly be characterized as rejecting routes exported from an exterior routing protocol to an interior routing protocol when a count of routes exported from the exterior routing protocol to the interior routing protocol exceeds the export limit required by claim 1, contrary to the assertion in the Office Action.

Sankaran in its entirety fails to disclose or suggest maintaining a count of routes exported from an exterior routing protocol executing on a network device to an interior routing protocol executing on the network device, as required by claim 1. To the extent that Sankaran discloses a number of routes maintained by a router at all, Sankaran fails to disclose maintaining a count of the number of routes exported from an exterior routing protocol to an interior routing protocol. Instead, Sankaran is limited to a total number of routes stored by a router regardless of protocol. Claim 1, on the other hand, specifically requires maintaining a count of routes exported from an exterior routing protocol to an interior routing protocol executing on the same device.

Cisco fails to overcome this limitation of Sankaran. The Office Action cited Cisco merely for teaching that a device may receive a command defining a prefix limit. Although Applicant does not acquiesce to this assertion, Applicant respectfully submits that even if Cisco did teach receiving a command defining a prefix limit, Sankaran in view of Cisco would fail to disclose or suggest the requirements of claim 1 of maintaining a count of routes exported from an exterior routing protocol to an interior routing protocol and rejecting additional routes exported from the exterior routing protocol to the interior routing protocol when the count exceeds the export limit. Instead, Applicant respectfully submits that the combination of Sankaran and Cisco would merely disclose the device of Sankaran with the additional ability to receive a command according to the disclosure of Cisco as interpreted by the Office Action.

Hunt fails to overcome the limitations of Sankaran and Cisco with respect to claim 1. Hunt was cited merely for the teaching of exporting routes from an exterior routing protocol to an interior routing protocol. Like Sankaran and Cisco, Hunt fails to disclose or suggest maintaining a count of routes exported from an exterior routing protocol executing on a network

device to an interior routing protocol executing on the network device, as required by claim 1. Additionally, Hunt also fails to disclose rejecting additional routes exported from the exterior routing protocol to the interior routing protocol when the count exceeds the export limit. In other words, even in view of Hunt's teaching with respect to exporting routes from one protocol to another, such description would not change the underlying teachings of Sankaran and Cisco with respect to rejecting routes when the total number of routes within the device approaches limits of the storage space. That is, Sankaran in view of Cisco and Hunt fail to provide any mechanism for providing any method by which to reject routes exported from an exterior routing protocol to an interior routing protocol executing on the same device when a count of the routes exported by the exterior routing protocol to the interior routing protocol exceeds an export limit. Instead, Sankaran in view of Cisco and Hunt would at most suggest rejecting routes when the total routes of the device approach the storage space limits of the device, and receiving a command defining a prefix limit, on a device that is capable of exporting routes from an exterior routing protocol to an interior routing protocol.

Hunt fails to provide one of ordinary skill in the art with any rational reason for modifying Sankaran and Cisco to maintain a count of a number of routes exported by an exterior routing protocol to an interior routing protocol. Sankaran specifically discloses that the goal of the techniques therein is to efficiently utilize the storage capacity of a router. *See, e.g.,* Sankaran, ¶ [0009]. To one of ordinary skill in the art without the benefit of Applicant's disclosure, routes learned by an exterior routing protocol occupy memory in the same way as routes learned by an interior routing protocol. Thus one of ordinary skill in the art, relying solely on the disclosures of Sankaran and Hunt, would not modify a device constructed according to the techniques of Sankaran to somehow maintain a count of routes exported from an exterior routing protocol to an interior routing protocol. Instead, from this proposed combination, one would arrive at a router that can export routes from an exterior routing protocol to an interior routing protocol, and that rejects routes when certain thresholds of storage space are exceeded.<sup>1</sup> There would be absolutely no reason for one of ordinary skill in the art to modify Sankaran in view of Cisco and Hunt to maintain a count of routes exported from an exterior routing protocol executing on a network device to an interior routing protocol executing on the network device, and then reject the

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<sup>1</sup> Assuming one of ordinary skill in the art would have found a reason to combine these references, to which Applicant does not acquiesce.

exportation of routes between those protocols in the manner required by claim 1. For these additional reasons, Sankaran in view of Cisco and Hunt fails to disclose or suggest this requirement of Applicant's claim 1.

Applicant additionally notes that Rochberger fails to overcome the noted limitations of Sankaran, Cisco, Hunt. The Office Action cited Rochberger as disclosing "a method of routing in a network when a node is in an overload state."<sup>2</sup> Rochberger, like Sankaran, Cisco, and Hunt, also fails to teach, disclose, or suggest maintaining a count of routes exported from an exterior routing protocol to an interior routing protocol and rejecting exported routes when the count exceeds an export limit. Therefore, the applied references fail to disclose or suggest the requirements of claim 1, alone or in combination. Independent claims 27, 33, and 34 include requirements similar to those of claim 1, therefore similar remarks apply to claims 27, 33, and 34.

Amended claim 7 requires maintaining a count of routes exported from an exterior routing protocol to an interior routing protocol and rejecting additional routes exported from the exterior routing protocol to the interior routing protocol when the count exceeds an export limit, similarly to independent claim 1. Therefore, remarks presented with respect to the similar elements of claim 1 also apply to claim 7. Additionally, amended claim 7 requires updating routing information of the interior routing protocol when the count exceeds the export limit to clear routes previously exported from the exterior routing protocol when the count exceeds the export limit to clear routes previously exported from the exterior routing protocol to the interior routing protocol prior to the count exceeding the export limit. The references also fail to teach or suggest updating routing information of the interior routing protocol when the count exceeds the export limit to clear the routes that were previously exported from the exterior routing protocol to the interior routing protocol prior to the count exceeding the export limit, as required by amended claim 7.

To the extent that Sankaran discloses clearing routes, Sankaran merely discloses clearing redundant routes, i.e., routes with a common start and end point, without regard for a protocol by which these routes were obtained. *See, e.g.*, Sankaran, ¶ [0045]. Clearing redundant routes is not updating routing information of an interior routing protocol when a count of routes exported from an exterior routing protocol to the interior routing protocol exceeds an export limit to clear

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<sup>2</sup> Office Action dated January 16, 2009, p. 24. Applicant does not acquiesce to this assertion.

routes previously exported from the exterior routing protocol to the interior routing protocol prior to the count exceeding the export limit. Hunt and Cisco fail to overcome this limitation of Sankaran with respect to this requirement of amended claim 7. Therefore Sankaran in view of Hunt fails to disclose or suggest these requirements of amended claim 7.

Independent claim 11 requires counting, in response to an export limit command, a number of routes exported from an exterior routing protocol process executing on the network device to an interior routing protocol process executing on the network device. As discussed above with respect to claim 1, the applied references fail to disclose or suggest maintaining a count of routes exported from an exterior routing protocol executing on a network device to an interior routing protocol executing on the network device. Similar remarks apply with respect to claim 11 as presented with respect to this similar element of claim 1.

Independent claim 16 requires limiting, in response to a command from a client that specifies an export limit, a number of routes exported from an exterior routing protocol executing on a network device to an interior routing protocol executing on the network device. Limiting a number of routes may comprise, for example, rejecting additional routes or updating routing information to clear previously exported routes, therefore remarks similar to those presented with respect to claim 7 apply with respect to claim 16. Independent claim 18 includes requirements similar to those of claim 16, for which similar remarks apply.

Independent claim 37 requires a first routing protocol module and a second routing protocol module, wherein the first routing protocol module exports network routes to the second routing protocol module, an interface to receive a command that specifies an export limit, and a control unit that prevents the first routing protocol module from exporting more than the export limit of the network routes to the second routing module. Therefore remarks similar to those presented with respect to claims 1 and 7 apply to claim 37.

For at least these reasons, the independent claims are patentable over Sankaran in view of Cisco, Hunt, and Rochberger. The dependent claims incorporate the requirements of the respective independent claims, therefore dependent claims 5-6, 9-10, 12-15, 19-26, 30-32, 35, and 38-41 are likewise patentable. Moreover, the dependent claims include a number of requirements that are likewise not disclosed or suggested by the applied references.

Claim 5, for example, requires updating routing information to associate the routes (i.e., routes exported from an external routing protocol to an internal routing protocol) with a

maximum metric that defines a maximum distance from the network device to neighboring network devices when the count exceeds the export limit and advertising the updated routing information to a network device. The Office Action cited Sankaran, ¶ [0005] as disclosing updating routing information to associate exported routes with a maximum metric that defines a maximum distance from the network device. However, Sankaran merely discloses that, between two redundant routes (routes with the same starting point and end point), the route with a fewer number of hops is preferred. Preferring a route with relatively fewer hops is not updating routing information with a maximum metric that defines a maximum distance from the network device to neighboring network devices when the count exceeds the export limit, as required by claim 5. The other applied references fail to overcome this limitation of Sankaran with respect to claim 5, therefore the applied references, alone or in combination, fail to disclose or suggest the requirements of claim 5. Claims 14 and 30 include requirements similar to those of claim 5, therefore similar remarks apply to claims 14 and 30.

Claim 9 requires maintaining respective counts for instances of the interior routing protocol, identifying one of the instances of the interior routing protocol to which the routes were exported, comparing the respective count for the identified one of the instances, and rejecting additional routes exported to the interior routing protocol to the identified one of the instances based on the comparison. As discussed above, the applied references fail to disclose maintaining a count of routes exported from an external routing protocol executing on a network device to an internal routing protocol executing on the network device. Therefore, the applied references necessarily fail to disclose maintaining respective counts for instances of the interior routing protocol. Moreover, for similar reasons as those presented above, the applied references necessarily fail to disclose comparing the respective count and rejecting additional routes to an identified one of the instances based on the comparison. Claims 25, 31, and 33 include similar requirements, therefore similar remarks apply with respect to claims 25, 31, and 33.

Amended claim 14, as another example, requires that when the number of routes exported from the exterior routing protocol process to the interior routing protocol process exceeds an export limit, operating the network device in an overload condition in which the network device: (i) updates routing information of the interior routing protocol to clear the routes previously exported from the exterior routing protocol, (ii) rebuilds the routing information of the interior routing protocol by updating the routing information of the interior routing protocol

to associate interior routes with a maximum metric that defines a maximum distance from the network device to neighboring network devices, and (iii) advertises the updated routing information to another network device. None of the applied references disclose or suggest the requirements of claim 14.

The applied references, alone or in combination, fail to disclose or suggest updating routing information of the interior routing protocol to clear the routes previously exported from the exterior routing protocol as required by claim 14. The only reference that discusses interior and exterior routing protocols (Hunt) merely discloses exporting routes from an exterior routing protocol to an interior routing protocol, but fails to disclose specifically clearing those exported routes. The applied references also fail to disclose or suggest rebuilding the routing information of the interior routing protocol by updating the routing information of the interior routing protocol to associate interior routes with a maximum metric that defines a maximum distance from the network device to neighboring network devices when the number of routes exported from the exterior routing protocol process to the interior routing protocol process exceeds an export limit, as further required by amended claim 14. To the extent that Sankaran discloses dynamically redefining paths using, for example, BGP and OSPF, Sankaran fails to disclose or suggest updating routing information of the interior routing protocol when the number of routes exported from the exterior routing protocol to the interior routing protocol exceeds an export limit. The other applied references fail to overcome this limitation, therefore the applied references fail to disclose or suggest the requirements of amended claim 14.

In addition, amended claim 14 requires that the network device advertises updated routing information to another network device, where the updated routing information associates interior routes with a maximum metric that defines a maximum distance from the network device to neighboring network devices when the number of routes exported from the exterior routing protocol process to the interior routing protocol process exceeds an export limit. In this manner, a network device according to claim 14 may influence the other network device to use an alternative route, rather than a route comprising the network device of claim 14, when the number of routes exported from the exterior routing protocol process to the interior routing protocol process exceeds an export limit. None of the applied references disclose a network device that advertises updated routing information as required by claim 14, i.e., advertising routing information of an interior routing protocol to associate interior routes with a maximum

metric that defines a maximum distance from the network device to neighboring network devices when the number of routes exported from the exterior routing protocol process to the interior routing protocol process exceeds an export limit.

For at least these reasons, the Office Action has failed to establish a prima facie case for non-patentability of Applicant's claims 1, 5-16, 18-27, 30-35, and 37-41 under 35 U.S.C. § 103(a). Applicant therefore respectfully requests withdrawal of this rejection.

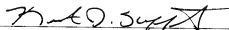
### CONCLUSION

All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Applicant does not acquiesce as to any assertion in the Office Action with respect to the prior art or to Applicant's claims. Applicant's silence with respect to any assertion in the Office Action should not be interpreted as Applicant's acquiescence thereto. Applicant reserves the right to comment further with respect to the cited art and/or any pending claim in a future Amendment, Response, or on appeal. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

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